DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1x.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-013466
Date Inspected: 27-Apr-2010

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 1100
OSM Departure Time: 1930
Location: Job Site

CWI Name: William Sherwood and Jim Cunningham

CWI Present:	☑ Yes	☐ No					
Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☐ Yes	☐ No	☑ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: Orthotropic Box Girder

Summary of Items Observed:

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

QA randomly observed ABF/JV qualified welders Rory Hogan (ID #3186) and Jeremy Dolman (ID #5042) perform CJP groove (splice) back welding fill to cover pass on Orthotropic Box Girder (OBG) L3E/L4E plate 'E'(0mm to 5278mm / outside). The welders were observed welding in the 4G (overhead) position utilizing a dual shield Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16" diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-3110-4. The welder was using a track mounted welder holder assembly that is remotely controlled. The joint being welded has the backing bar gouged using the Esab Plasma Arc machine and was ground smooth. The gouged and ground splice butt joint was also Non Destructive Testing (NDT) tested using the Magnetic Particle Testing (MT). The splice joint was preheated and maintained to greater than 150 degree Fahrenheit using Miller Proheat 35 Induction Heating System located at the other side of the plate prior/during welding and the vicinity was properly protected from wind. During welding, ABF Quality Control (QC) Jim Cunningham was noted monitoring the welding parameters of the welder. At the end of the shift, welding in this location was still continuing.

At OBG L1E/L2E bottom plate 'D' inside, QA randomly observed ABF/JV qualified welder Mitch Sittinger perform CJP groove welding repair. The welder was observed welding in the 1G (flat) position utilizing Shielded metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode implementing welding procedure ABF-WPS-D15-1000-Repairs. The weld repair was excavated to a boat shape having a dimension of 120mm long

X 35mm wide X 22mm deep and the plates were preheated to more than 140 degree Fahrenheit using propane gas torch prior welding. During the shift, ABF QC William Sherwood was noted monitoring the welder. Prior welding, the excavation was tested using Magnetic Particle Testing (MT) by ABF QC William Sherwood using a Parker Contour Probe electromagnetic yoke with red magnetic powder as detecting media. During the shift, the welder has completed two welding repairs and was working on the third repair at the end of the shift.

At OBG L2E/L3E side plate 'C' inside, QA randomly observed ABF/JV qualified welder Rick Clayborn ID #2773 continue perform CJP groove welding repair. The welder was observed welding in the 3G (vertical) position utilizing Shielded metal Arc Welding (SMAW) with 1/8" and 5/32" diameter E7018H4R electrode implementing welding procedure ABF-WPS-D15-1000-Repairs. The weld repairs were excavated to a boat shape and the plates were preheated to more than 140 degree Fahrenheit using propane gas torch prior welding. During the shift, ABF QC Barry Blake was noted monitoring the welder. Prior welding, the excavations that were welded were tested using Magnetic Particle Testing (MT) by ABF QC Barry Blake. During the shift, the welder has completed all the welding repairs inside and moved to the outside of same plate and do some more repairs.

At OBG L1E/L2E deck plate 'A' inside, QA randomly observed ABF/JV qualified welder Chun Fai Tsui ID # 3426 perform overhead termination welding from one end of deck plate 'A' backing bar to edge plate 'B'. The welder was observed welding in the overhead (4F) position using Shielded Metal Arc Welding with E7018H4R, 1/8" diameter electrode. The welding being made is a termination and connection from one end of the deck plate 'A' backing bar to the edge plate 'B' in reference to Request For Information (RFI) ABF-RFI-002097R00 dated March 19, 2010. The termination welding on this location was monitored by ABF QC William Sherwood.

Also at OBG L1E/L2E edge plate 'B' (bottom corner), QA also randomly observed ABF/JV qualified welder Chun Fai Tsui ID # 3426 perform CJP welding of the splice butt joint and tied it into the 'C' plate. The welder was observed welding in the horizontal (2G) position using Shielded Metal Arc Welding with E7018H4R, 1/8" diameter electrode. The welding on this location was also monitored by ABF QC William Sherwood and both welding were completed before the end of the shift.

WELDING INSPECTION REPORT

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Summary of Conversations:

As stated above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Mohammad Fatemi (916) 227-5298, who represents the Office of Structural Materials for your project.

Inspected By:	Lizardo,Joselito	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer